CLAIMS

1. A method in a wireless communications device, the method comprising:

5   determining a distance of the wireless communications device from a base station;

determining timing advance, at the wireless communications device, for the base station based on the distance of the wireless communications device from the base station;

10   using the timing advance determined for transmitting to the base station.

2. The method of Claim 1,

15   determining a location of the wireless communications device,

determining the distance of the wireless communications device from the base station using the location of the wireless communications device and a location of the base station.

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3. The method of Claim 2, the wireless communications device includes a satellite positioning system receiver, determining the location of the wireless communications device by obtaining a satellite positioning system based location fix.

4. The method of Claim 2, obtaining the location of the base station based on known timing advance information for different locations with a cell served by the base station.

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5. The method of Claim 2, obtaining the location of the base station based by receiving a message including base station location information.

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6. The method of Claim 2, obtaining the location of the base station from a table of base station locations stored on the wireless communications device.

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7. The method of Claim 6, obtaining the base station locations stored in the table by downloading to the wireless communications device.

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8. The method of Claim 1, determining the timing advance at in the wireless communications device for transmitting voice over a packet network.

9. The method of Claim 1, determining the timing advance at in the wireless communications device during a push-to-talk session over a packet network.

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10. A method in a wireless communications device, the method comprising:

determining a propagation delay between the wireless communications device and a base station;

10   determining timing advance, in the wireless communications device, for the base station based on the propagation delay between the wireless communications device and the base station;

using the timing advance determined for transmitting to the base station.

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11. The method of Claim 10,

obtaining satellite positioning system time from a satellite positioning system,

20   obtaining satellite positioning system time from the base station,

determining propagation delay using the satellite positioning system time from the satellite positioning system and the satellite positioning system time from the base station.

12. A method in a wireless communications device, the method comprising:

obtaining first timing information for the wireless communications device at a first known location relative to a base station;

5   obtaining second timing information for the wireless communications device at a second known location relative to the base station;

determining a location of the base station based on the first and second timing information and based on the first and second known

10   locations.

13. A method in wireless communications device, the method comprising:

15   determining a difference between a current cell timing and a prior cell timing for a common serving cell;

determining a current timing advance for the common serving cell using the difference between the current cell timing and the prior cell timing and using a prior timing advance corresponding to the prior cell

20   timing.

14. The method of Claim 13,

using the current timing advance for communicating with the

network,

determining the current timing advance before communicating

with the network.

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15. A method in a wireless communications device having a look-up table providing timing advance information associated with different locations relative to at least one base station, the method

10   comprising:

determining a location of the wireless communications device;

determining timing advance information for the location of the wireless communication device from the look-up table.

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16. The method of Claim 15, determining timing advance information for the location of the wireless communication device using timing advance information in the look-up table only if the location of the wireless communications device is within a specified distance of a location

20   in the look-up table for which timing advance information is provided.

17. The method of Claim 15, obtaining timing advance information from a source other than the look-up table if the location of the

wireless communications device is not within a specified distance of a location in the look-up table for which timing advance information is provided.

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18. The method of Claim 15, updating the look-up table with the timing advance information obtained from the source other than the look-up table.

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19. The method of Claim 18, determining timing advance information from the look-up table when communicating voice over a packet network.

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20. A method in a wireless communications device, the method comprising:

determining timing advance on the wireless communications device;

20   transmitting a modified burst to a network using the timing advance determined on the wireless communications device.

21. The method of Claim 20,

transmitting the modified burst includes transmitting a modified access burst having a reduced guard time relative to an unmodified access burst.

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22. The method of Claim 20,

transmitting the modified burst includes transmitting a modified normal burst having a an increased guard time relative to an unmodified normal access burst, without first transmitting an access burst.

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23. The method of Claim 20, receiving a timing advance correction from the network after sending the modified burst to the network.

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